Available online at www.sciencedirect.com
ScienceDirect
Procedia Economics and Finance 15 (2014) 1002 – 1009
Procedia Economics and Finance
www.elsevier.com/locate/procedia

Emergent Market Queries in Finance and Business

The impact of the national competitiveness on the perception of corruption

Simona-Roxana Ulman[a*]

[a]*Scoala Doctorala de Economie si Administrarea Afacerilor, str. Lapusneanu, nr. 14, Iasi, Romania*

Abstract

Corruption is one of the persistent problems of the societies over years and it affects the credibility of public institutions and its ambassadors in front of the citizens and of the other related countries. Around the world, all nations complain of corruption and, as it is observed in the Corruption Perception Index 2012, no country has a maximum score which shows that a country is totally clean. Corruption, as a public institutions' manner of action, will influence and affect the economical outcomes, being materialized in the decline of the national competitiveness. This is the most frequent approach in the discussion about the correlation between these two variables. Contrary, the aim of this study is to analyze if corruption is influenced by national competitiveness and to show the nature of this influence. Analyzing the national competitiveness data from The Global Competitiveness Report 2012-2013 and the data about corruption from Corruption Index 2012, the results reveal the existence of a strong positive connection between these two indexes, the level of national competitiveness significantly influencing the perception of corruption from a country. It is observed from the analysis that countries rated as having a small national competitiveness rate are perceived to be more corrupt than the more competitive countries. In conclusion, the standard of living, the rate of employment, the productivity, the commercial equilibrium, the national attractiveness, the ability of objective implementation, the flexibility and ability of sustaining growth which define the national competitiveness concept are direct determinants of the corruption perception.

Selection and peer-review under responsibility of the Emerging Markets Queries in Finance and Business local organization

Keywords: corruption, perception of corruption, national competitiveness, global competitiveness index, economic policies, public institutions.

[*] Corresponding author, tel. 040756834071
Email address: simonaulman@yahoo.com

Selection and peer-review under responsibility of the Emerging Markets Queries in Finance and Business local organization
doi:10.1016/S2212-5671(14)00660-1

1. Introduction

National competitiveness is created and developed by the actions of institutions, policies and public investments which direct the evolution of the total economy. In this way, it is observed the major role of the public institutions in the competitiveness process. The conclusion is that it is very important how these institutions develop their activities, the equity of this actions being crucially for the economic wellness. Corruption, as a public institutions' manner of action, will influence and affect the economical outcomes, being materialized in the decline of the economic performance, prosperity, wellness and the standards of living. The impact of the corruption on these aspects, which define the concept of national competitiveness, was empirically examined in many studies, observing a major influence of the way in which the public institutions' corruption is perceived on the function of the entire economic activity (Mauro, 1995; Tanzi and Davoovi, 1998; Subarna and Rajib, 2010).

This is the most frequent approach in the discussion about the correlation between these two variables. Contrary, the aim of this study is to analyze if perception of corruption is influenced by national competitiveness and to show the nature of this influence. So, the hypothesis of this study is that the perception of corruption from a country is influenced by the level of national competitiveness of that country. This means that the standard of living, the rate of employment, the productivity, the commercial equilibrium, the national attractiveness, the ability of objective implementation, the flexibility and ability of sustaining growth which define the national competitiveness concept influence the way of perceiving the actions and the strategic behaviors of the public institutions represented by their public persons.

In this context, the estimation of the corruption is made taking into account the economic outcomes and the national welfare from the analyzed country. The corruption aspect when the image of a country is discussed becomes important because the country's status is hurt if corruption with its forms is part of the prevailing culture of doing business. This will discourage investments because potential investors have the possibility of choosing the location of their business. In fact, the countries do not have the same attractiveness for them. So, the perceived image of the public institutions' correctitude from a country is related to its national competitiveness, idea which underlines the necessity of improving the level of its competitiveness. This explains the strong accent put on achieving it by the ones who make the economic policies and the concernment for the so called *dangerous obsession* is totally legitimate. In conclusion, this study suggests a point of view which underlines that the most important elements for the image of a country are its standard of living, rate of employment, productivity, commercial equilibrium, national attractiveness, ability of objective implementation, flexibility and ability of sustaining growth and, depending on them, the perception of the corruption from that country is estimated as being up or down.

2. Corruption

In actual economies, the public goods multiply and their importance in the economic environment amplifies. The local, national and global programs for the illness control, against the pollution and violence, the judicial, monetary and for the environment protection regulations, good quality governance, the individual and collective security, the actions for influencing competitiveness (legislation, context-conditions, economic politics) represent significant categories of public goods. Without these elements, the market isn't able to function and to generate and regulate them. The unity between public goods and the market is organic, but those who produce such goods aren't always selected taking into consideration the rigor and the qualities of the market criteria. The regulatory market functions acts in correlation with those of different organizations: companies, civil society structures, professional and public administration associations. The public institutions model the market using the norms from the basis of its function, watch to the conformation of the economic actors to these norms and correct the functional market mechanism. When the self-interest is over the social interest, these functions degenerate and income inequality, illegitimate economic biases, disadvantageous conjunctures generating negative externalities inevitably appear. One of such problems generated by the misconduct of the public institutions is corruption.

Corruption is one of the persistent problems of the societies over years and it affects the credibility of public institutions and its ambassadors in front of the citizens and of the other related countries. Around the world, all nations complain of corruption and as it is observed in the Corruption Perception Index 2012, no country has a maximum score which shows that a country is totally clean. Corruption is a social waste and it affects growth, increasing inequality and poverty, provoking distrust, anger and instability as many studies have shown (Pani, 2011; Mauro, 1995; Tanzi and Davoodi, 1998; Chong and Calderon, 2000; Lindgreen, 2004; Tverdova, 2011). A country that isn't able to control and eliminate this problem suffers important losses of economic and social wellness. For this reasons, political leaders have prioritized the fight against this unpleasant and uneconomic phenomenon.

Corruption is defined as the action of private individuals or companies who abuse by public resources for private interest. These actions are done through the public officials who also abuse by their public power and deviate from the former and correct rules and from the ethical principles. „Corruption is a complex and multifaceted phenomenon with multiple causes and effects as it takes various forms and functions in different contexts" (Andvig and Fjeldstad, 2001, 7). The economic literature has identified different aspects of corruption starting from bribes including kickbacks, baksheesh, pay-offs, gratuities, commercial arrangements, etc.; favoritism and nepotism; blackmailing; protection or security money; gifts and under-the-table fees; embezzlement; extortion and ending with fraud (Andvig and Fjeldstad, 2001; Ferrell et. al., 2002; Ali and Isse, 2003; Lindgreen, 2004; Jiao, 2009; Merwe and Harris, 2012). Referring to economic corruption, it implies an exchange of cash or material goods, and being different from social corruption including clientelism, nepotism and other kind of favoritism not having at its base cash or materials goods (Medard, 1998, as referenced in Lindgreen, 2004).

3. Measuring corruption

The data about corruption are taken from the Corruption Perception Index 2012, published by Transparency International, the global coalition against corruption. Its mission is to stop corruption and promote transparency, accountability and integrity at all levels and across all sectors of society. The core values promoted are: transparency, accountability, integrity, solidarity, courage, justice and democracy. The Corruption Perceptions Index ranks countries and territories based on how corrupt their public sector is perceived to be. A country or territory's score indicates the perceived level of public sector corruption on a scale of 0 - 100, where 0 means that a country is perceived as highly corrupt and 100 means it is perceived as very clean. A country's rank indicates its position relative to the other countries and territories included in the index. This year's index includes 176 countries and territories (*Corruption Perceptions Index 2012*). The CPI is the most widely used indicator of corruption over the world. In this case, capturing perceptions of corruption of those in a position to offer assessments of public sector corruption – business people and country experts - is more relevant and intercepts in a more realistic way the corruption from countries.

4. National competitiveness

The extension of globalization process has as direct consequence the increase of the competitiveness between countries. Although the process of competitiveness is not new, the actual context and the sources which nurture it are different. According to this idea, the concept was redefined to cover the new requirements, but still no standard definition exists and the authors hire the concept between different limits.

„The World Economic Forum's Annual Global Competitiveness Reports have studied and benchmarked the many factors underpinning national competitiveness" (*The Global Competitiveness report 2012-2013*, 4). In this report, the competitiveness is defined as „the set of institutions, policies, and factors that determine the level of productivity of a country". Instead, the productivity fixes the level of prosperity and the rates of return obtained by investments in an economy (Ibidem, 4). The definition reveals the significance of the national environment for the process of doing business; environment which is determined by the conduct of the institutions and the policies established by them. In this way, to be competitive means to be able to have positive satisfactory results at the macroeconomic level.

Porter tried to integrate all the theories about the concept of competitiveness and to create the *Diamond Model* which was compound of four important factors of competitiveness and the relations between them: factor's conditions, demand's conditions, the supported and connected industries and the strategy, structure and rivalry of a company, creating, in this way, the environment in which the companies appear and learn to be competitive (Subarna and Rajib, 2010, 91). Macerinski and Sakhanova consider that, in this model, competitiveness is defined as the capability of a nation to create the environment which helps companies to innovate faster than the foreign competitors, assessing the extension of the productivity as being the most important national strategy (Macerinski and Gaukhar, 2011, 293). In addition, Onsel and Ulengin underline that although many authors consider that competitiveness is equal to productivity, these two related concepts are different one by another. Productivity represents a feature of the state and competitiveness refers to the position of a country compared with others (Onsel and Ulegin, 2008, 223). Stateskeviciute and Tamosiuniene identify a list of nine national competitiveness determinants, underlying that a country is competitive when it has a high standard of living, high rate of employment, high productivity, commercial equilibrium, high national attractiveness, ability of objective implementation, healthy politics, high flexibility and ability of sustaining growth (Staskeviciute and Tamosiuniene, 2010, 160).

5. The measurement of national competitiveness realized by World Economic Forum

It was observed that different points of view exist from the perspective of understanding the concept of competitiveness. This lack of idea uniformity is also met when the specialists want to measure it. The existent models select and group different competitiveness factors and include them into a general system. So, the results can vary depending on the used model of measurement.

Different international organizations calculate competitiveness indexes and, among them, *World Economic Forum* publishes *The Global Competitiveness Report* every year. It is based on the Porter's approach, professor at Harvard Business School, which is the basis for the *Global Competitiveness Index* (GCI) construction. Since 2005, the *World Economic Forum* has based its competitiveness evaluation on this GCI, „a comprehensive tool that measures the microeconomic and macroeconomic foundations of national competitiveness" (*The Global Competitiveness Report 2012-2013*, 4). It has many different components, involving static and dynamic perspectives, reflecting aspects of competitiveness and being grouped in twelve pillars of competitiveness. The pillars are aggregated into a single index, but they are also presented separately, providing a sense of the specific area where a country needs to improve. It is underlined the interrelation between these pillars: although the results are reported separately for each pillar, they are not independent, tending to reinforce each other (*The Global Competitiveness report 2012-2013*, 8).

6. Research question

One of the main concerns of the society, in general, but especially of the economy, is the limitation of the resources. In this context, the concept of opportunity cost always is put into discussion because the decisions must be taken so that the resources to be spent as efficiently as possible to maximize the standard of living and the economic wellness. So, the countries should correctly identify their real sources of welfare and minimize the negative consequences on the economic development in certain contexts. Corruption and national competitiveness are one of these important elements and the necessity of studying the relation between them is accentuated by another present reality: the present is defined by the correlation between the scientific knowledge, the new economy and the globalization, correlation which complicates the national economic sphere so that a high level of prosperity is more and more difficult to achieve. Also, the global economy is forced to face one of the biggest challenges till now, the greatest global recession. In this context, the economic environment imposes the condition of not neglecting the behavior of the public institutions and their image among its citizens and the related countries, prioritizing the short term urgencies. Corruption and the way it is perceived in a country depend on the level of national competitiveness, which is our major hypothesis. In this way, the level of the corruption as it is perceived in every country is related with the level of national competitiveness, to analyze if corruption is influenced by competitiveness and, if this statement is confirmed, to show the nature of this influence. Analyzing the national competitiveness data from *The Global Competitiveness Report 2012-2013* and the data about corruption from *Corruption Perceptions Index 2012*, the results are expected to reveal the existence of a strong connection between these two indices, national competitiveness significantly influencing the country's corruption perceptions.

7. Results and discussion

A Spearman Rank Correlation test and a regression were performed for all the countries (106) included in the analysis. The selected countries are from all stages of development as they are grouped in *The Global Competitiveness Report 2012-2013*: Stage 1: Factor-driven (38 economies), Stage 2: Efficiency-driven (38 countries) and Stage 3: Innovation-driven (35 economies). We used two indices – the *Global Competitiveness Index 2012-2013* (GCI) and the *Corruption Perceptions Index 2012* (CPI), where GCI is the independent variable and CPI is the dependent one. Since this is a cross-sectional analysis, robust errors estimation method was used for estimating the relation between the two variables. It is true that in GCI a pillar called *Institutions* exists. Here, it is used an evaluation of the national institutions where opinions about corruptions are also included. But GCI has many different components, involving static and dynamic perspectives, reflecting aspects of competitiveness and being grouped in twelve pillars of competitiveness. This means that the single question referring to corruption from the first pillar does not significantly influence the final result of the GCI. On the other hand, CPI is one of the most famous and frequently used index which measures corruption. It realizes a profound analysis of corruption and it is very relevant for this problem. Although this appears to be a limit of the present analysis, GCI is much more complex and measures many another aspects that can really influence the perception of corruption from a country. This statement is also supported by the results of the regression analysis as it can be seen in the *Results and discussion* part. Another limit can be seen in the eventual time shifting that is possible to exist between defining the perceptions of corruption as a consequence of the level of competitiveness. The reality is that the scores of both indices (CPI and GCI) are almost the same from a year to another. This means that both the perception of corruption and the national competitiveness are forming in time, revealing that the correlation and the influence of the two variables are possible to be analyzed using one year indices.

The scatterplot (figure no. 1) depicts the relationship between perception of corruption measured by the Corruption Perceptions Index and national competitiveness measured by Global Competitiveness Index. Both indices are measured for 2012. It reveals a positive correlation between the two variables, which means that on average the views of corruption are related with the levels of national competitiveness. In other words, countries rated as highly competitive are also perceived as less likely to be corrupt or countries rated as having a small national competitiveness rate are perceived to be more corrupt than the more competitive countries. It can be seen from the graph that Romania is in the middle of the analyzed countries. It has a 4.07 score for GCI and a 44 score for corruption. This means that it is perceived as a medium corrupt country, taking in consideration that the least corruption country score is 19 for the analyzed countries (Burundi, Chad and Haiti). Also, it is placed into a medium position at the national competitiveness level. The less competitive countries are Albania, Cape Verde, Ecuador, El Salvador, Guiana, Jamaica, Serbia, Suriname, Swaziland, Timor-Leste, Yemen, Pakistan, etc., but also, Greece. All this less competitive countries have a score less than 4. Also, the graph reveals that the most developed countries on both levels are Finland, New Zeeland, Denmark, Singapore, Switzerland, Sweden, Canada. United States is very competitive, but less correct at the integrity level, being situated even after Germany and United Kingdom.

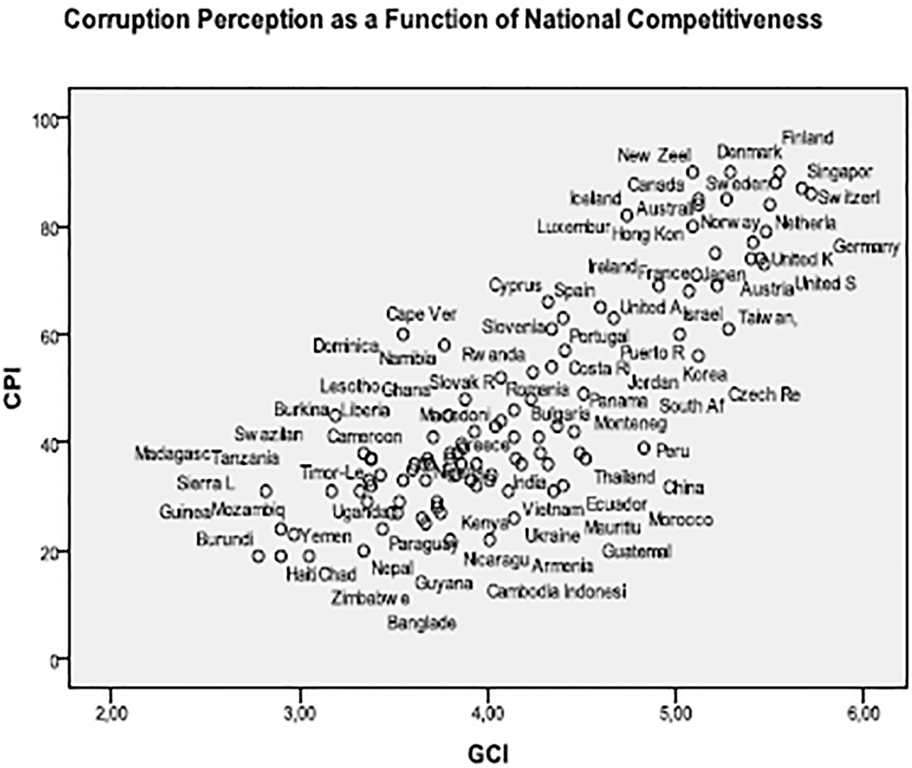

Fig. 1. The relationship between perception of corruption and national competitiveness

Table 1. The estimation of the calculated correlation coefficients

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.863[a]	.745	.743	10.277

a. Predictors: (Constant). GCI
b. Dependent Variable: CPI

The regression analysis indicates that a strong connection between GCI and CPI really exists, because the correlation report has a high and positive value (R=0, 863). R square indicates that 74,5% of the dependent variable variation is explicated by the variation of the independent variable. Also, the estimated value of the multiple adjusted determination report obtained in the estimation of the calculated correlation coefficients (table 1) reveals with a higher precision the influence of the independent variable on the dependent variable, indicating that the variation of the GCI variable explicates 74,3% of the CPI variation. The correlation report test (Sig. F= 0,000) < (α = 0, 05) shows that between the considered variables exists a significant relation; the determination report test (Sig. F= 0,000) < (α = 0, 05) indicates that, statistically speaking, it exists a significant relation between the two chosen variables; the regression model's test (Sig. F= 0,000) < (α = 0, 05) guaranties with a 95% trust that the model is statistically significant (table 2).

ANOVA[b] Table 2. The model's significance test through Fisher test

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	32112.890	1	32112.890		
Residual	10983.988	104	105.615	304.055	.000[a]
Total	43096.877	105			

From the model's parameters test results (table 3), we can observe that, at an extension with a unit of the GCI variable, the CPI value advances with 23,526 units, revealing the positive influence that exists between the two variables. Also, it can be seen that at a value of GCI equal to zero (GCI=0), the CPI medium value is -51,359. It is observed that when, hypothetically speaking, GCI is equal to zero, CPI is negative. Taking into consideration that the minimum rate of the GCI is 2,78 in the case of Burundi, the positive value of the CPI is provided. The constant term also becomes significant and implies the existence of other factors that affect national competitiveness. This implies that while national competitiveness is a significant determinant of the perception of corruption, there are other variables that significantly explain the country GCI evolution.

Coefficients[a] Table 3. The model's parameters test results

Model	Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1(Constant)	-51.359	5.720		-8.978	.000	-62.703	2.874
CGI	23.526	1.349	.863	17.437	.000	.028	.035

This regression reveals that countries rated as highly competitive are also perceived as less likely to be corrupt. In the same way, countries rated as having a small national competitiveness rate are perceived to be more corrupt than the more competitive countries. It must be underlined that a high CPI score means less corruption, *0* indicating *highly corrupt* and *100* indicating *very clean*. A country that has a high GCI rank is expected to have a high rank on the CPI list that means that countries with a high national competitiveness are also perceived as not being corrupt or highly corrupt.

8. Conclusions

The perception of corruption from a country influencing the national competitiveness is the most frequent approach in the discussion about the correlation between these two variables. With a dense awareness of the negative consequences on development, guides of strategic lines to fight it have priority in the present policy decisions. Although these attempts exist, the corruption and the perceptions of it are difficult to influence. Contrary, the aim of this study is to analyze if corruption perception is influenced by national competitiveness and to show the nature of this influence. This means that the standard of living, the rate of employment, the productivity, the commercial equilibrium, the national attractiveness, the ability of objective implementation, the flexibility and ability of sustaining growth which define the national competitiveness concept influence the way of perceiving the actions and the strategic behaviors of the public institutions represented by their public persons. Our hypothesis was confirmed by the regression performed, where the Global Competitiveness Index (GCI) was the independent variable and the Corruption Perceptions Index (CPI) was the dependent one. The results indicated that a strong connection between GCI and CPI really exists where the variation of the GCI variable explicates 74,3% of the CPI variation, as the estimated value of the multiple adjusted determination report showed. Social scientists and policy makers tried to reveal the determinant causes of corruption and the manners of reducing it and, also, to detect its consequences. The usual approach puts into discussion the economic growth as a variable influenced by the corruption and its perception around the citizens and the countries. This study shows that one determinant cause of the negative or positive perception of corruption about a country is its national competitiveness. This result implies that the focus of the policies should be put on the economic outcomes. Once the economic outcomes are positive and satisfactory, the corruption perception is also improved and its negative consequences ameliorated. So, the main concern should be centered on the strategies which are able to improve the twelve pillars of competitiveness as they are established in *The Global Competitiveness Report*. When the constituent elements of these pillars are attentively analyzed and concretely improved, the perceived country's image is absolutely enhanced, image which implies the problem of the corruption, too

References

Andvig, Jens, Fjeldstad, Odd-Helge (2001). Corruption A Review of Contemporary Research, Chr. Michelsen Institute Development Studies and Human Rights.

Ali, A., Isse, H. D. (2003). Determinants of Economic Corruption: A Cross-Country Comparison, Cato Journal 22 (3), pp. 459-466.

Balkyte, A., & Tvaronaviciene, M. (2010). Perception of Competitiveness in the Context of Sustainable Development Facets of Sustainable Competitiveness, Journal of Business Economics and Management 11(2), 341-365.

Chong, A., Calderon, C. (2000). Causality and Feedback Between Institutional Measures and Economic Growth, Economics &Politics12 (1), pp. 69-81.Corruption Perceptions Index 2012.

Delgado, Mercedes, Ketels, Christian, Porter, Michael E., & Stern, Scott (2012). The Determinants of National Competitiveness, NBER Working Paper 18249, pp. 2-36.

Franke, George; Nadler, Scott (2008) – Culture, economic development, and national ethical attitudes, Journal of Business Research 61, pp. 254–264.

Harris, G., Merve, A. D. (2012). The Scope for Measuring Public Opinion against Corruption: the Attitudes of Kwazulu-natal University Students, SAJEMS 15 (3), pp. 282-293.

Krugman, P. (1994). A Dangerous Obsession, Foreign Affairs 73 (2), pp. 28-44.

Lindgreen, Adam (2004). Corruption and Unethical Behavior: Report on a set of Danish Guidelines, Journal of Business Ethics 51, pp. 31-39.

Lorentzen, P., McMillan, J., & Wacziarg, R. (2008). Death and Development, Journal of Economic Growth 13 (2), pp. 81-124.

Macerinskiene, Irena, & Sakhanova, Gaukhar (2011). National Economy Competitiveness of Kazakhstan Republic, Inzinerine Ekonomika-Engineering Economics 22 (3), pp. 292-299.

Mauro, Paolo (1995). Corruption and Growth, Quarterly Journals of Economics, 110 (3), pp. 681-712.

Onsel, Sule, Ulegin, Fusun (2008). A New Perspective in Competitiveness of Nations, Socio-Economic Planning Sciences 42 (4), pp. 221-246.

Pani, Marco (2011). Hold Your Nose and Vote: Corruption and Public Decisions in a Representative Democracy, Public Choice 148, pp. 163-196.

Porter, M.E., Delgado, M., Ketels, C.; & Stern, S. (2008). Moving to a New Global Competitiveness Index. World Economic Forum, The Global Competitiveness Report 2008-2009.

Porter, M. E., & Sakakibara, M. (2004). Competition in Japan, Journal of Economic Perspectives, Winter Issue.

Porter, M.E. (2002). Building the Microeconomic Foundation of Prosperity: Findings from the Microeconomic Index, World Economic Forum, Global Competitiveness Report, pp. 23-45.

Sachs, J., & Warner, A. (2001). The Curse of Natural Resources, European Economic Review, pp. 827-838.

Staskeviciute, I., & Tamosiuniene, R. (2010). The Competitiveness of a Country: Evolution of a Concept, Business theory and practice11(2), pp. 159-167.

Subarna, K. S., & Rajib, N. S. (2010). National Competitiveness and Perception of Corruption, Advances in Competitiveness Research 18 (1/2), pp. 89-101.

Tanzi, V., Davoodi, H. (1998). Roads to Nowhere: How Corruption in Public Investment Hurts Growth, International Monetary Fund, Washington DC. The Global Competitiveness Report 2012-2013